

# NASA's Applied Remote Sensing Training Program

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29 November 2017





# NASA's Applied Remote Sensing Training Program (ARSET)

<http://arset.gsfc.nasa.gov/>

- Team of 15 NASA scientists, students and other support staff at 3 NASA centers
- Part of NASA's Applied Sciences/Capacity Building Program
- Mission: To empower the global community through remote sensing training
- Target audience: policy makers and other environmental professionals in the public and private sector
- Trainings areas:



Disasters



Land



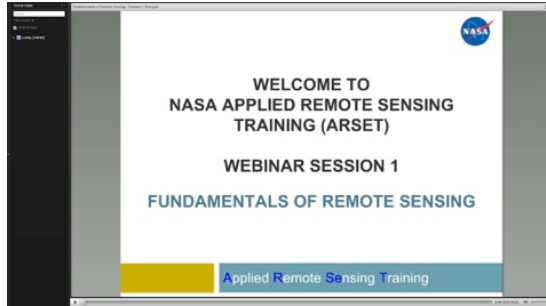
Health & Air  
Quality



Water  
Resources



# ARSET Training Formats



## Online

- Live and recorded
- 4-6 hours of instruction
- Advanced training includes image processing

## In-Person

- 2-7 days in length
- Held in a computer lab
- Mixture of lectures and exercises
- Locally relevant case studies

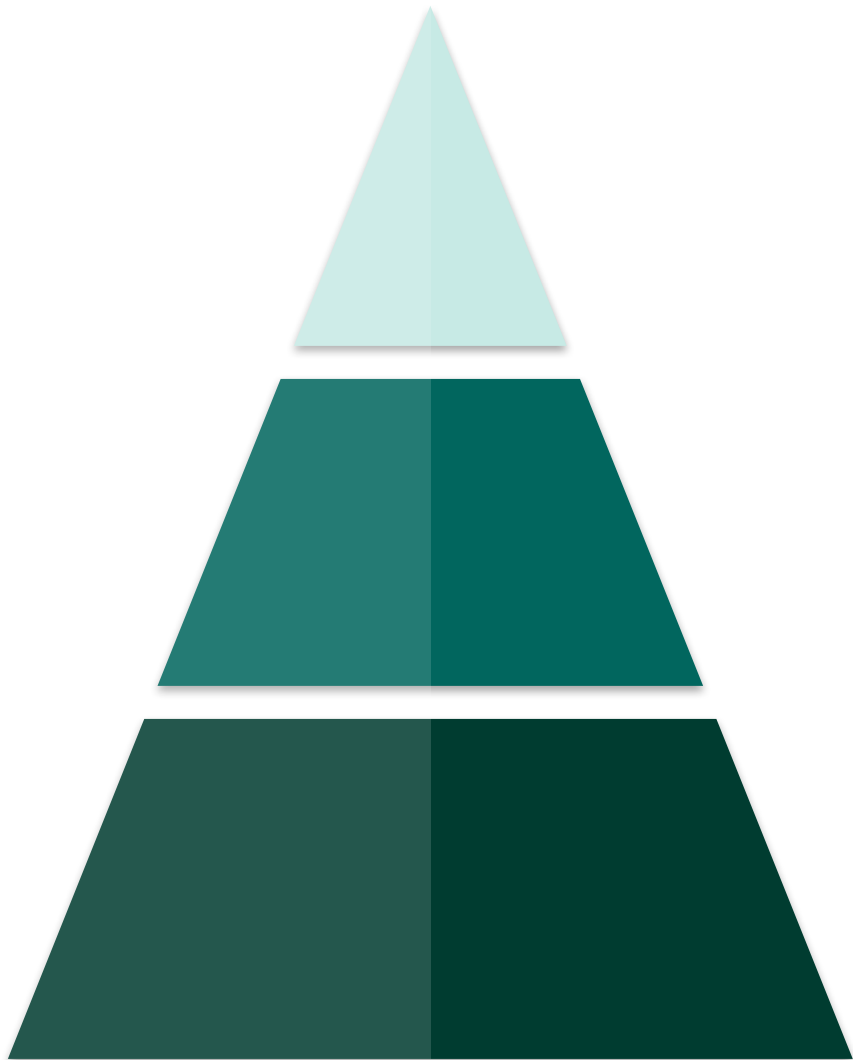
## Train the Trainers

- Online training and manuals
- For organizations seeking to develop a remote sensing training program





# ARSET Training Levels



## **Advanced (Level 2)**

Pre-requisite: level 1 training

More in-depth and hands-on exercises

*Example: Land Cover Classification with Satellite Data*

## **Basic (Level 1)**

Pre-requisite: level 0 training

Data, tools, examples of applications

*Example: Remote Sensing of Forest Cover & Change Assessment for Carbon Monitoring*

## **Fundamentals (Level 0)**

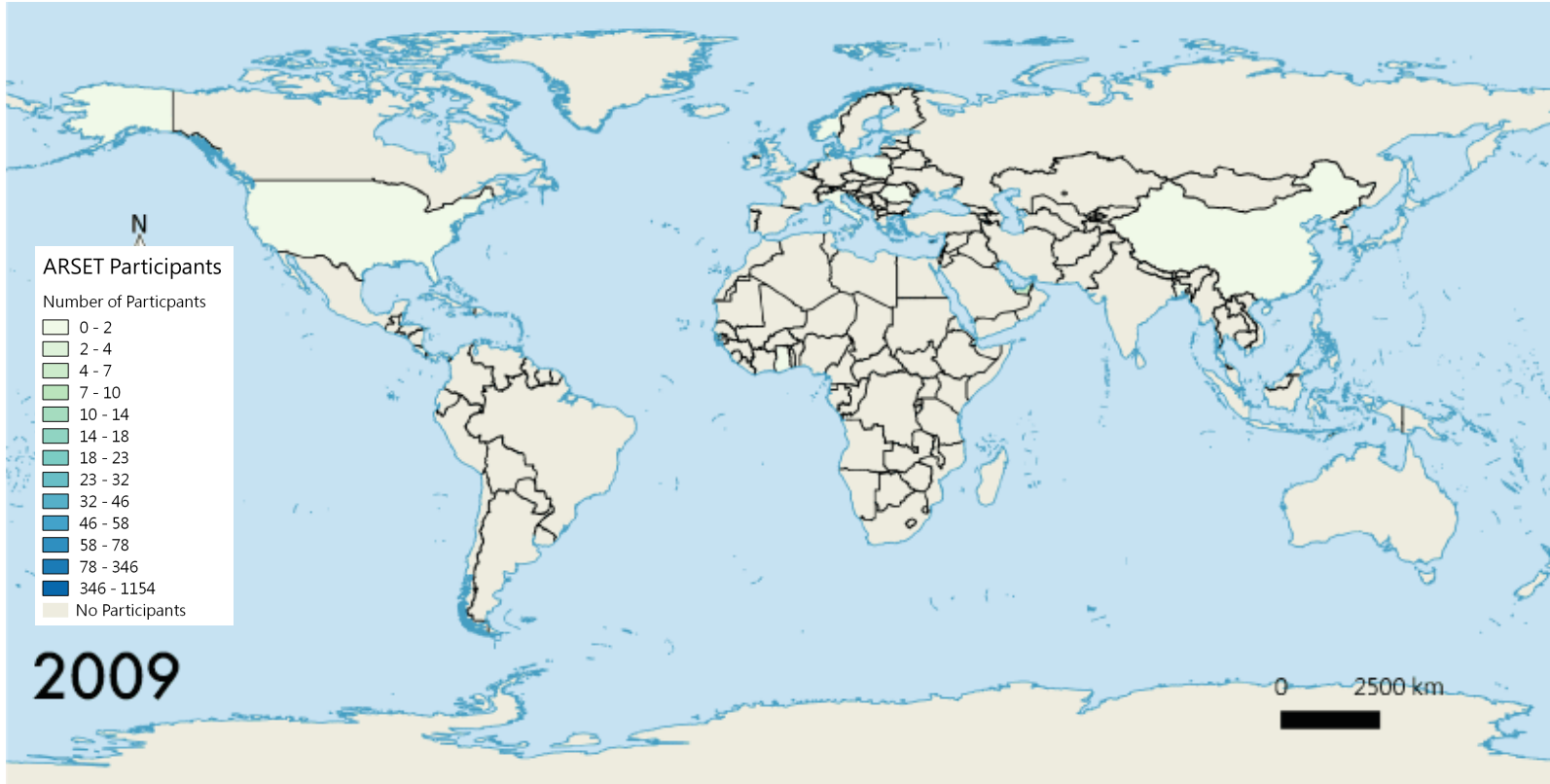
*Example: Satellites, Sensors, Data and Tools for Land Management and Wildfire Applications*

***All presentations and exercises are freely available in English & Spanish  
Some trainings (and recordings) are delivered in both languages***



# Global Participation

Number of participants (2009-2016)



96 trainings (since 2009)



12,800+ participants



159 countries,  
all US states



3800 unique organizations



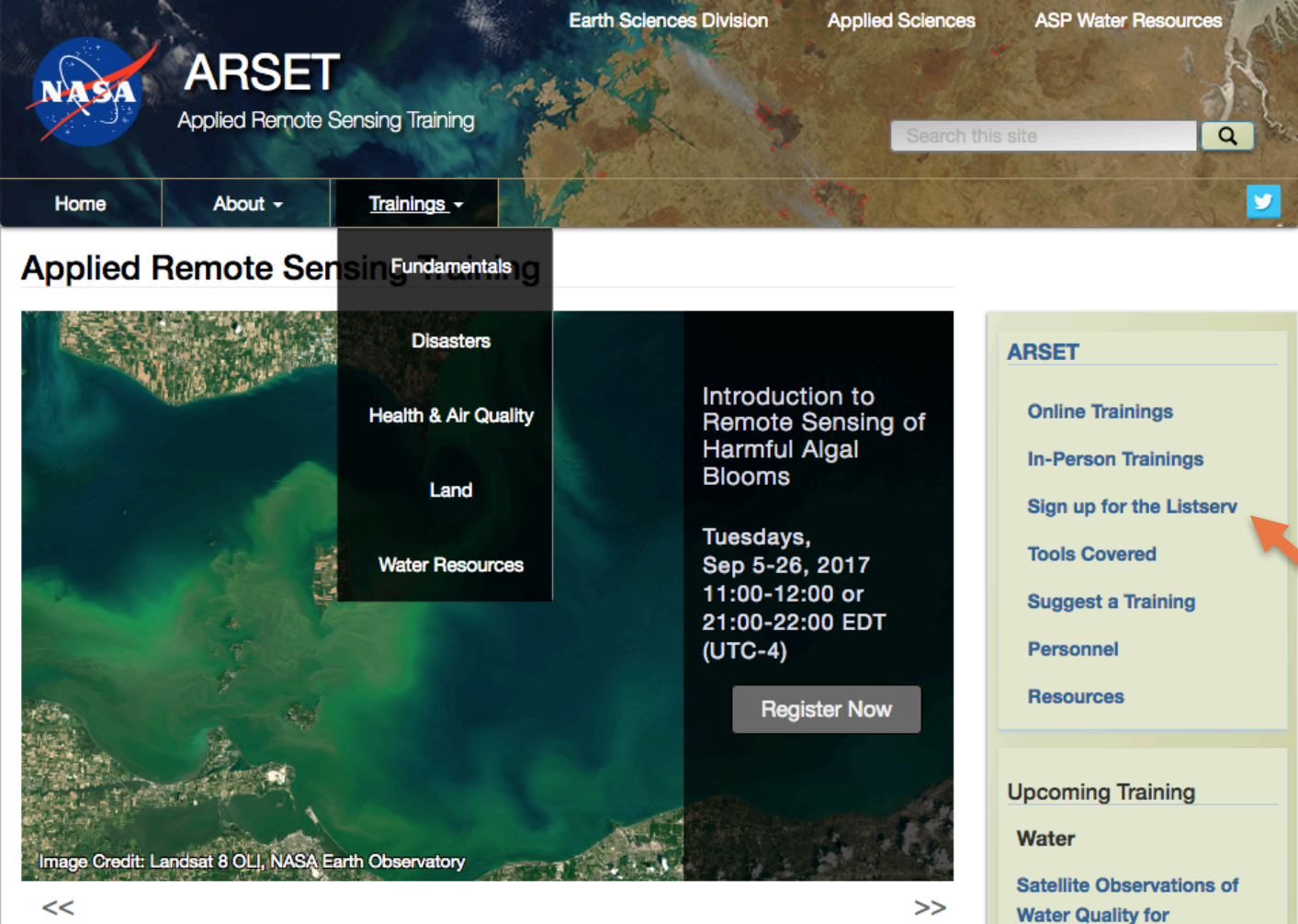


# How to Stay Involved with ARSET

- Upcoming trainings are announced on the ARSET website
- Past training materials and webinar recordings are freely available through the ARSET website
- Join our listserv
- Let us know if your organization is interested in an in-person training
- Let us know what training topics (specific applications, data, satellite missions, skills) are of interest to you and your organization.
- Stay in touch: After an ARSET training, let us know how you have increased your use of satellite data and/or how we can improve our program

# ARSET Website

<http://arset.gsfc.nasa.gov/>



The screenshot shows the ARSET website homepage. The header features the NASA logo, the text "ARSET Applied Remote Sensing Training", and navigation links for "Earth Sciences Division", "Applied Sciences", and "ASP Water Resources". A search bar and a Twitter icon are also present. A main navigation bar includes "Home", "About", and "Trainings". The "Trainings" dropdown menu is open, showing options: "Fundamentals", "Disasters", "Health & Air Quality", "Land", and "Water Resources". The "Fundamentals" option is highlighted. The main content area features a large satellite image of a coastal area with a greenish tint, overlaid with a dark box containing the text "Introduction to Remote Sensing of Harmful Algal Blooms" and "Tuesdays, Sep 5-26, 2017 11:00-12:00 or 21:00-22:00 EDT (UTC-4)". A "Register Now" button is located below this text. The right sidebar contains a list of links: "ARSET", "Online Trainings", "In-Person Trainings", "Sign up for the Listserv", "Tools Covered", "Suggest a Training", "Personnel", and "Resources". An orange arrow points to the "Sign up for the Listserv" link. Below this list is a section titled "Upcoming Training" with a sub-section "Water" and the text "Satellite Observations of Water Quality for".

Earth Sciences Division Applied Sciences ASP Water Resources

NASA ARSET Applied Remote Sensing Training

Search this site

Home About Trainings

Applied Remote Sensing Training

Fundamentals

Disasters

Health & Air Quality

Land

Water Resources

Introduction to Remote Sensing of Harmful Algal Blooms

Tuesdays, Sep 5-26, 2017 11:00-12:00 or 21:00-22:00 EDT (UTC-4)

Register Now

Image Credit: Landsat 8 OLI, NASA Earth Observatory

ARSET

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# Sign up for the ARSET Listserv

<https://lists.nasa.gov/mailman/listinfo/arset>



As the weather warms in the Northern Hemisphere, many will notice an increase in algal blooms like [this one](#) which occurred in Washington last year. [Learn the basics of aquatic remote sensing, including how to access satellite-derived chlorophyll data.](#)

## UN Sustainable Development Goals

In the 2030 Agenda for Sustainable Development, the United Nations established a series of goals for protecting the planet and ending global poverty. In a recent ARSET webinar, nearly 400 participants learned to use satellite observations of air quality in support of the goals. The training was featured on the [SDG Knowledge Hub](#), and materials from the training are now available on the [ARSET website](#). This June, the program is offering a three day webinar on remote sensing of land indicators for Sustainable Development Goal 15.

[Register Here](#)

NASA EOSDIS recently announced that Reverb data search would be replaced with Earthdata Search by the end of the year. The new system will be faster and easier to use. [Read the full announcement here.](#)

Remote Sensing of  
Aquatic Environments



## Introduction to Synthetic Aperture Radar Introducción al Radar de Apertura Sintética

June 28, 29 and July 5, 6  
English: 21:00-22:00 EDT (UTC-4)

SAR can observe the Earth's surface day and night, through most weather conditions, and the signal can penetrate the vegetation canopy. There are a number of existing SAR datasets from current and past airborne and satellite missions, as well as exciting upcoming missions. This online webinar will focus on building the skills needed to acquire and understand SAR data, including polarimetric and interferometric SAR (PolSAR and InSAR), as well as potential applications.

[Register](#)

28, 29 de junio y 5, 6 de julio  
Español: 12:00-13:00 EDT (UTC-4)

SAR puede observar la superficie terrestre de día y de noche y a través de la mayoría de las condiciones meteorológicas. Además, la señal puede penetrar la cubierta vegetal y proporcionar información relacionada al estado de inundación de la vegetación. Existen datos de SAR del presente y del pasado obtenidos desde satélites y aviones y habrá más con futuras misiones. Esta capacitación en línea se enfocará en desarrollar los conocimientos necesarios para adquirir y entender datos de SAR incluyendo polarimetría e interferometría y sus potenciales aplicaciones.



The MODIS image above (Credit: [NASA Earth Observatory](#)) shows a wildfire burning in Greenland. Many areas around the world are experiencing above average wildfire activity this year. [Learn to forecast, monitor, and manage wildfires using satellite observations.](#)

## SAR Success

We just wrapped up our first training focused on Synthetic Aperture Radar. Unlike optical sensors, SAR can penetrate through cloud cover and vegetation and is useful for nighttime observations. This four-session webinar, offered in both English and Spanish, was ARSET's largest training to date. Missed the live webinar? You can watch it on demand.

[Watch Now](#)

## Have You Heard of AppEEARS?

Application for Extracting and Exploring Analysis Ready Samples, or AppEEARS, is a useful tool for downloading remote sensing data. Download just the data you need by subsetting spatially (by point or area), temporally, and spectrally. The application also allows you to visualize the results before downloading them.

[Learn More](#)

